REPORT

TO

HIS EXCELLENCY THE LORD LIEUTENANT OF IRELAND,

REGARDING

FISHERY PIERS

IN THE

COUNTY OF DONEGAL, IRELAND.

By THOMAS STEVENSON, Pres. R.S.E., M. Inst. C.E.

Presented to both Houses of Parliament by Command of Her Majesty.

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Report to His Excellency the Lord Lieutenant of Ireland, regarding Fishery Piers in the county of Donegal, Ireland.

By THOMAS STEVENSON, Pres. R.S.E., M. Inst. C.E.

On the 24th July last, I attended by desire of the Under Secretary, a conference at the Castle, Dublin, upon the subject of the Donegal Harbours. At that meeting it was explained to me, that the design and construction of those harbours by the Board of Public Works, had been made the subject of complaints by the County Surveyor of North Donegal, and that the Grand Jury of that county had asked that inquiry should he made into those charges by an independent engineer.

Various documents bearing on the question were put into my hands, and I was asked to make a local investigation and inspection of each of the harbours complained of, and to report to His Excellency my opinion on the questions raised.

The documents submitted to me were:—

(1). Copy Report to the Grand Jury, by Mr. Harte, County Surveyor for North Donegal, dated 11th March, 1885, on the Piers and Harbours of the County of Donegal, presented at Spring Assizes of 1885.

(2). Copy of same Report, excluding the Piers and Harbours of Southern Donegal.

(3). Copy of Report on the Piers and Harbours of Southern Donegal by Mr. Gahan, the County Surveyor of that District, also presented to the Grand Jury at Spring Assizes of 1885.

(4). Copy Report by General Sankey, Chairman of the Board of Works, dated 19th September, 1884, with an appendix and map.

(5). Copy of Resolution of the Grand Jury at Spring Assizes, 1885, on the subject of these Harbours and demanding inquiry.

(6). Report by the Chairman of the Board of Works, to the Under Secretary, dated April, 1885.

(7). Working plans and sections of each of the Harbour Works, with general map showing sites.

I also received from Mr. Sinclair a long letter dated 29th July, 1885, giving much information regarding many of the Harbours; and have received in the course of my inspection a memorial regarding the Harbour at Culdaff, and a copy resolution of the Grand Jury at Summer Assizes of 1885, as to certain parties with whom I should communicate. I also received from Mr. Harte, after my inspections had been finished, notes regarding the Donegal Piers.

The whole of these documents I have carefully perused and considered, and having visited the various Harbours, along with the County Surveyors of each district, and obtained local information, I have the honour to submit the following Report:—

I think it unnecessary to notice *seriatim* all the allegations which have been made regarding the Harbour Works, which have been carried out by the Public Works Board, in Donegal, or the explanations and confutations which have been offered in respect of these charges, but simply to state the

opinion which I have myself formed of the design and construction of these works, and their present condition, as based upon a personal inspection, and upon information received on the spot from the fishermen and others.

I have put in an appendix the information received at each harbour, with small illustrative plans of each place, and I have also added the opinion which I formed, and wrote down on the spot, both as to the condition of the harbours, and what further improvements seemed to me to be wanted. The information given in this appendix renders a lengthened report unnecessary.

The works which have been carried out by the Public Works Board, are not in the strict sense of the term harbours. In no case has an area of sheltered water been enclosed; where boats might lie with safety in all states of the weather. Many of the works are simply landing places, partially sheltered by short piers or breakwaters, intended to enable boats when the weather was suitable to approach the coast and land their fish, and be afterwards drawn up on the beach or on slips provided for the purpose, so as to be beyond the reach of the surf during storms. This description of work appears to be well suited to the wants of the Donegal fishermen as they at present exist. The fishing population is distributed pretty generally all along the coast, and prosecute the fishings as near to their homes as possible; so that by the construction of a number of small ports, much greater facilities are afforded them than would be, by the construction of two or three large expensive harbours situated at great distances from the homes of the men. This system of working necessarily implies the use of small boats, and consequently the craft employed are only about 24 feet keel, and carry about 3 tons. It is to this class of boats that the works executed have been adapted, and have been in my opinion in almost every case well designed. The fishermen I found to be most grateful for what had been done for them, and any demand which they made, was with one exception, (viz.:—the removal of the slip at Bunatrahan), not in the way of change requiring the demolition of anything which had been done, but of extension or further improvement, generally of a moderate and reasonable nature; indeed, I feel bound to say that in my interviews with the fishermen, I found them to be a most intelligent class of men, and quite competent to judge of the effect, which the proposals they made would have if carried out.

With regard to the sites chosen for the piers, I find that there is general satisfaction among the men in the locality of the piers which have been made, the complaint being that additional piers are wanted, and not against those which exist. No doubt at Downies it was stated that the pier should have been at a point further seaward, and carried into deeper water, but in my opinion the expenditure which such a work would involve, would be altogether unjustifiable in such a place, and what is really wanted is the formation of a slip at the root of the present pier to enable boats to be hauled up out of the reach of the sea. A similar statement was made to me at Port Noo, by Mr. Scott, who proposed that the pier should be farther out, and carried into a depth of about 6 fathoms, a work involving a very large expenditure; while the opinion of others was, that the pier should be rebuilt on the former site, and the beach cleared for hauling up boats, with which opinion I fully concur.

Regarding the stability and general sufficiency of the works, I am of opinion that, notwithstanding the existence in some cases of slight cracks in the concrete work, that the works are substantially executed. The only

exception to this being the pier at Buncrana, which is constructed of masonry, and was designed by Mr. Forsyth in 1868, a date prior to the general adoption of concrete for harbour works.

If there has been any fault it is that economy has perhaps heen carried a little too far, as some of the parapet walls have been made rather thinner than I should have thought advisable; but the works have been tested by very severe storms accompanied by high tides, and do not appear to have suffered any serious injury.

The result of my inquiry is such as to satisfy me that there has been nothing in the proceedings of the Board of Public Works or their Engineer, or of the Fisheries Commissioners, in regard to these harbours, to warrant the charges which have been brought against them. On the contrary, I am of opinion that their having carried out such a number of harbour works in so short a time, on such a very exposed part of the coast, with an almost entire freedom from damage, and to the undoubted generally expressed satisfaction of the fishermen, is highly creditable to the Board; and will, in my judgment, compare favourahly with the proceedings of any harbour authority in the country. I also beg to state, with special reference to the allegations made regarding the shortening, &c., of the Teelin pier, that I have particularly examined the whole documents relating to the transaction, and I am satisfied that it was conducted in the most regular manner, and that there exists not a vestige of foundation for the reflections upou the honour or the professional reputation of the Chief Engineer.

I have only to express my very many obligations to Mr. Gahan and to Mr. Harte for their obliging assistance during my inquiries in the county, and for the assistance of Mr. Manning, who placed freely at my disposal the whole of the plans and other documents connected both with the old and more recently constructed harbours of Donegal.

THOMAS STEVENSON.

Edinburgh, October 2, 1885.

APPENDIX.

NOTES ON IRISH HARBOURS.

JULY AND AUGUST, 1885.

BUNATRUHAN.

Visited on 28th July, with Mr. Gahan.

This pier is substantially built, and shows no sign of weakness whatever, the parapet at landward end is too low, and the accumulated sea mounts over it, and has torn out some of the pitching, which is laid dry. The pier is built of masonry in cement mortar. The stone is a hard sandstone got on the beach above high water mark.

The defect of the plan is that there is a recoil sea from a somewhat abrupt face of rock opposite top of beach. The excavations at beach require to be extended landwards, and sloped up to form a spend for the sea and prevent recoil, also to enable boats to be hauled up out of the water during storms. This ought to be done, but it implies a new road to the pier, and a good deal of excavation. If this were done the present slip would not be required, and might be removed, as it is useless on account of its steepness.

There are certain rocks a short distance outside of pier head, coloured red on plan, which should either be removed or the pier extended with an inward kant to cover them, which would improve the shelter.

This place is susceptible of great improvement, by lengthening the pier and sheltering more of the bay. If a larger scheme were to be entertained the pier should be extended straight out, and the rocks outside present end removed. The extension of pier, I should recommend to be a solid concrete structure.

There is about 10 to 12 feet rise of tide in Donegal bay at spring tides, and 7 feet at neaps.

Ten boats, of 24 feet keel, belong to this harbour, and strangers come sometimes; one in to-day, from near St. John's Point.

KELLY'S ROCK.

Visited 28th July, 1885, with Mr. Gahan.

This is a place about five miles to the eastward of Bunatruhan. At it there is a certain amount of natural shelter afforded by a projecting shelf of rock, inside of which there is an extensive sandy beach, the upper portion of which is covered with coarse shingle.

Large quantities of herrings are sometimes caught in this neighbourhood, and it was stated that as many as 200 boats sometimes took refuge here, the whole of which have to be hauled up into a field at top of beach. No fishing of any other kind appears to be prosecuted from this place; but I found it to be well known to all the fishermen in Donegal bay as far as Malinbeg, at which place, however, none of the resident fishermen had ever heard of it. In the event of further harbour extension this seems a likely place for adoption, though there may be some risk of trouble from the accumulation of sand.

The accompanying sketch is from the Admiralty survey.

MOUNT CHARLES.

Visited 29th July, 1885, along with Mr. Gahan.

This pier, which was erected so far back as 1848, is in a state of perfect conservation, and at present requires no repair, except a corner cope stone which has evidently been slightly displaced by a stroke from a vessel, and also a few feet of coping above outer stair which have been made of a soft stone, which has become somewhat decayed.

A short piece of the inner quay wall near landward end has been underpinned, but the usefulness or stability of the pier is not in the slightest degree affected thereby. Two vessels were lying at the pier, but no fishing boats belong to the place.

This pier has proved to be more a commercial than a fishing pier, although it is frequently used for landing herrings when the boats cannot get up to Donegal. With railway communication it would probably be very much used, and prove of much service to the adjoining community.

INVER.

Visited this place 29th July, 1885.

It lies at the head of Inver bay, about 8 miles by road from Donegal. There are no works of any kind at present, excepting a perch marking the mouth of the river at low water.

I met with a number of fishermen here who stated that about twenty boats fished from it, twelve of them being of 19½ feet keel, and eight of 24 feet keel. Six men are required for each boat.

The bar of the river is about dry at low water. At about 2½ hours flood, boats loaded with fish can get in. The worst wind for the port is south-west; but no boats have ever been lost taking the port. The summer fishing consists of plaice, whiting, &c.; winter and harvest of sprat fishing and mackerel.

The herring fishing has not been good for twelve years. Some years the boats have made as much as £200 a boat. No regular herring curing station here.

Sometimes as many as 100 stranger boats come in here.

The fishermen would like the river deepened, and think that if once done it would keep deep. The bottom of river is hard gravel. Would like a buoy on bar. Would also like a basin and pier formed up at high water mark. There is a short road connecting with a public road.

Sea does not break until it reaches the bar. The boats sometimes land herrings at Mount Charles.

I am of opinion that this place is worthy of being improved in the manner suggested by the fishermen.

The accompanying sketch is from the Admiralty survey.

BALLYSAGART.

Visited 31st July, 1885, with Mr. Gahan.

A portion of the rocky beach has been excavated to a uniform slope to enable boats to be easily hauled up, and this portion of the beach has been protected by a breakwater. The breakwater appears now to be quite secure throughout. The fishermen state that it would be an improvement if the breakwater were raised a few feet at landward end to prevent the sea from coming over.

Betwixt the breakwater and the cleared channel there is a considerable space of very rough uneven rocky surface, over which the men have at times to carry the fish. These rocks ought to be smoothed off and, at places, made up with concrete. The upright face of this rocky ledge next the channel should also be dressed off smooth, or what would probably be easier, faced up with a breast wall of concrete (as shown in red on sketch), at which the boats could come alongside. A small portion of this rock (also coloured red on sketch), near outer end should be cut away to give easier access to the slip. The bottom of channel should be better smoothed off, and some stones which are lying upon it removed.

Twelve fishermen were present at my visit, some of whom had been at the place all their lives. They stated that six boats, of 24 feet keel, belonged to the place. Six men are required for each boat. The summer fishing is for salmon, under a licence; four boats are licensed; they also fish herring and mackerel during harvest and winter. Go from shore to fishing banks, nine miles off the shore; go for herrings sometimes as far as Mullaghmore, where they remain for the fishing in that neighbourhood.

Sea not so heavy here as at Bunatruhan. The fishermen know Kelly's Rock, as principal place for herring fishing. There is less sea at Kelly's Rock than here. Would like to see breakwater made at Kelly's Rock.

Would also like to see Bunatruhan improved, by extending beach and lengthening pier.

Worst wind here, for sea, is south and south-east. Can take harbour easily. Consider breakwater is built in right direction.

Have seen many stranger boats here after herrings from all parts.

Mullaghmore best harbour in bay.

Get cod in winter and a few haddocks. Trawlers get sole and turbot, and take them to Donegal.

Boats have often been damaged here, and men nearly drowned before pier was built; but no accident has occurred since. They place great value on what has been done for them.

Cod banks are about 15 miles west of Rathlin O'Birne. If they could get big boats they would be glad, and could make lots of money.

Use "lug" bait for small white fish, and herring for cod. No mussel bait to be had.

Pier was built at the request of fishermen.

Do not lose much time by bad weather.

Twelve fishermen were present and they all agreed in the above statements.

PORT OCHRE.

Visited 31st July, 1885, with Mr. Gahan.

Port Ochre is situated on the southern shore of M'Swyne's Bay, near to Ellamore Point.

This landing place is formed inside of a long ridge of rocks, over which the sea breaks in north-westerly storms. It is sheltered from the south-west, and is of great use to boats fishing in M'Swyne's Bay when the weather is such as to prevent them rounding St John's Point.

The works consist of a deepening and smoothing of a long channel inside of the ridge, forming a landing slip at its upper end, and a level space for hauling up boats; also a protection wall seaward

of the slip and channel. The works are all carefully and substantially executed, and appear to be standing well.

The fishermen stated that they would like to have a low breast wall formed alongside the channel, and portions of the bed of channel near outer end somewhat deepened. They also wish to have erected around the boat platform a strong protection wall, as in its present exposed state the boats are liable to be blown away and destroyed during north-west gales. The demands of the fishermen appear reasonable, and should be considered favourably.

Many stranger boats use this place occasionally.

BRUCKLESS PIER.

Visited on 31st July, with Mr. Gahan.

This is an old pier constructed in a small inlet at head of M'Swyne's Bay, about the year 1847. It appears to have been considerably damaged by a high tide and storm in January, 1884, but has since been repaired. Small vessels come to this pier sometimes, with cargoes for Dunkineely and Miltown.

KILLYBEGS.

Visited on 31st July and 1st August, with Mr. Gahan.

This is a good natural harbour capable of holding a large number of boats and vessels drawing 18 feet at low water spring tides. Its position is marked by a lighthouse on Rotten Island at east side of entrance. Spring tides rise 11¼ feet, neaps range 5 feet. Was met here by a number of fishermen and questioned them.

Patrick Downes—Am a fisherman. Have got a boat of my own—a 3-ton boat, 24 feet keel. Fished here for last twelve years. Do nothing else. Go wherever fish are to be found in Donegal Bay. Cannot reach any landing place here at low water. Catch cod fish, whiting, salmon, herrings, &c. The herrings have greatly failed here, and they go to Mullaghmore. Fish lobsters in Fintragh Bay, off Port-na-Cross. Would like landing place at Port-na-Cross, as we sometimes cannot get round the point. Approve of what has been done at Port Ochre. Knows Ballysagart very well. It is very useful.

Old coast-guard station at Tribane could be easily improved. Mullaghmore a grand place.

The only place where we think money has been uselessly spent is Teelin; Bunatruhan very useful. Inver is a great resort during the winter fishery on this coast. Knows Kelly's Rock, has been eight weeks there fishing; can get house accommodation there. Has also been to Inver fishing. Mount Charles useful to fishermen sometimes.

The salmon licence is £3 a year.

Five boats were washed away at Port Ochre in a storm of November, 1881*. Would like the pier at Killybegs to accommodate a steamer.

Six boats belong to this port; three at Largy, and three at Port-na-Cross, in Fintragh Bay. No swell inside Killybegs, and good holding ground.

Fourteen fishermen are present and all agree with the above.

Note—Plans furnished to me do not represent the port as it is now.

Mr. Murray Stewart's pier seems to be the one which should be extended so as to let boats land fish at low-water, also to allow steamers to come alongside. It appears that about 150 feet long of extension would suit, and perhaps piles should be used as bottom is said to be soft, and these should be of greenheart as there are marine insects here which would destroy other timber; but a survey and borings would be required before finally determining this.

Three trawlers were lying at this pier on beach.

It seems to me that no time should be lost in furnishing pier accommodation for a coasting steamer from Glasgow or other ports, in order to supply a market for the fish.

POOLHURRIN.

Visited 1st August, with Mr. Gahan.

On the open coast, about 1½ mile to the eastward of Muckross Head.

A slip has been formed in the sloping face of the rocky foreshore, and laid with cross sleepers to facilitate the hauling up of boats. It is protected from seaward by a breakwater. The whole work appears to be standing well, and has withstood a heavy storm and high tide since it was constructed, and was stated by the fishermen to be of the greatest use to them, and a great saving to their boats, which they say will now last ten years, in place of three as before.

John M'Faden, and other fishermen were examined.

Seven boats belong to the place with seven men each; stranger boats often come. Fish for herring, salmon, cod, &c.

While the fishermen are highly satisfied with what has been done, they are anxious for additional improvements, viz.:—the lengthening of the breakwater 12 yards, the cutting away of the rocks betwixt slip and breakwater to the extent of 5 feet to allow the oars more freedom when bringing boats on to the slip—that a breast wall should be formed alongside of rocks at outside of slip, and that some stones at end of breakwater, and also on beach at shore end, should be cleared away. These requirements are all reasonable and desirable, and could be easily carried out excepting the lengthening of breakwater. The breakwater could be lengthened without difficulty, about 10 feet, as the rocks dry to that extent beyond the end of it at low water spring tides.

John M'Faden and other fishermen know Kelly's Rock. Would think that something might be done there.

* Before new pier was built.

TAWNY PIER.

Visited on 1st August, with Mr. Gahan.

Tawny pier is situated in Tawny Bay, about 1½ mile to the westward of Muckross Head.

A small pier has been constructed on the beach above low-water mark spring tides. Fishermen were all absent, except one.

The pier is constructed of concrete and is standing well. Five boats belong to this place with six or seven men to each boat. They go to fish as far as Malinbeg and Killybegs; get ling, cod, whiting, haddocks, herring, and lobsters.

They find the pier very useful. Boats can lie inside in any weather, except such a storm as occurred two years ago in January, when the boats have to be hauled up; for this purpose they want a slip, and there is a convenient place for one at east end of road retaining wall, near pier, which ought to be constructed.

TEELIN.

Visited on 1st August, with Mr. Gahan.

Teelin pier is situated in the south-western bight of Teelin Bay, in a position of considerable shelter, but is, notwithstanding, subject to a heavy run of sea in south-westerly storms. The pier is constructed of concrete and extends into a depth of 18 feet at low-water ordinary spring-tides, the original intention having been to extend it 19 feet farther.

This pier has been constructed in a careful and substantial manner. There are some "hair" cracks in certain parts of the concrete, but this is not at all unusual in works of the kind, and they are not, in this case, such as to cause any alarm. The fishermen, of whom I met sixteen, stated that there has been no good fishing here for twenty years; but there are at present eleven boats engaged with drift nets and eleven with long lines. These boats do not usually land their fish at the pier, but take them further up the bay to be nearer Carrick; but the men say that the pier is nevertheless of great benefit to them as a shelter, as they can always leave their boats afloat, and they were themselves anxious to have this pier erected. There are very few days that they could not land at the pier. Boats go for cod and ling fishery off Rathlin O'Birne. The pier is not properly connected with the public road, a considerable length of retaining wall at root end of pier having been washed down, on account, it is said, of the boulders having been taken off beach with which to heart the pier.

A salmon fishing is carried on from the pier, in which twenty-eight fishermen are engaged. The other fishermen complain of this as interfering with their use of it. The only complaints are that the bottom alongside of pier is very rough, and that the stones should be removed. This complaint is certainly justified, and ought to be attended to. The road ought also to be restored and protected by a retaining wall in a substantial manner.

The fishermen at this place stated that they sometimes benefit by Port Oclure landing-place.

Mr. Walker, Pier-Constable, says there is very little trade at the pier;—trade goes to a pier higher up the estuary. Pier seems to have been made in anticipation of trade.

Recommended the fisherman, of whom about twenty came up to Carrick about their complaints against those engaged in fishing salmon from the roadway of the pier, to make known the grounds of their complaints connected with the salmon fishery, to the Fishery Commissioners, in order to get these settled, and the means of working the pier adjusted satisfactorily.

MALIN BEG.

This pier I was unable to reach, but it was visited by Mr. Brebner, who accompanied me, and whose notes I append.

This is a small creek near Malin Head, surrounded by precipitous rocks of considerable height, and lying open to the south west, and exposed to a very heavy sea when the wind is from that direction. The works constructed consist of a long steep slip for hauling up boats, and a breastwork which boats can come alongside of. The works are all in good order except that some of the cross skids of slip, at lower end, have been torn off and require to be replaced.

The fishermen state that the works here have been of very great benefit to them. Boats were sometimes lost before works were erected, but no accident has occurred since—now four years. Boats are also much easier kept in repair now.

Eight boats belong to the port, with from five to eight men in each boat; get cod, ling, haddock, mackerel, lobsters, &c.; get cod about 1½ mile off—sometimes 200 to each boat at one shot; get herrings also in season. Sligo steamers sometimes call and take away herrings. Many stranger boats come from Teelin, &c.; about sixty boats have been here after the herring fishing.

What the fishermen principally want here in addition to the present accommodation is a short piece of breakwater, extending about half way across the creek, and some steps to get out of their boats on to the pier. The skids of slip also want some repair, and they are rather short.

A survey with soundings would be required to enable a decided opinion to be given regarding the proposed breakwater extension.

PORT NOO.

Visited on 3rd August, with Mr. Gahan.

The pier, which was erected at Port Noo thirty-six years ago, is now in ruins, and the little creek is almost entirely filled by the debris.

I here met Mr. Hamilton—the Recorder of Cork, also the Chief Officer of the Coast Guard, and one or two fishermen, and I was informed that there were about forty boats fishing from the port when the pier was standing, and that there was a good fishing bank for cod, ling, &c., ten to eleven miles off. Heavy seas set in here; cannot keep a boat afloat.

Francis Scott would like a breakwater from rocks farther out, carried into about six fathoms water. The opinion of the Coast Guard Officer is, that a pier should be erected on former site. This is also the opinion of Mr. Hamilton.

If pier were rebuilt it is expected that about forty boats would fish here. Vessels also land meal, &c., and there are large stores at the harbour belonging to merchants in Glenties. A survey would be required for a new pier.

This place has a certain advantage in being close to the anchorage of Church Pool, where vessels bound for it could find shelter if necessary.

BURTON PORT.

Visited 4th August, with Mr. Gahan.

This pier is all in good repair, and very useful to the district. It is used by boats passing to and from Arranmore, and small vessels bringing supplies to an extensive district of country. The pier could easily be lengthened, upon the rock, for a distance of about fifteen feet at a small expense, and I think this should be done.

RANAGH—ARRANMORE.

Visited on 4th August, with Mr. Gahan.

This pier consists partly of stone and partly of concrete, carried out to low-water springs. There are several fine hair cracks in the concrete work of outer part of pier; but no danger need be apprehended from them. A great many stones are lying alongside of pier, which should certainly be cleared away, as they form a great danger to boats taking the ground alongside of pier. There are also some stones at pier end which should be cleared away.

Twelve boats are said to fish from this pier, and get a great many lobsters which are sent off by Sligo steamers, also considerable quantities of cod, ling, and tusk,—not many herrings for many years. They also send fish to Dunglow and Burton Port.

BALLYNESS.

Visited on 6th August, with Mr. Harte.

This pier is in a situation quite sheltered from the sea, and vessels can lie at it at any time; but a strong current runs obliquely past the end of it, and is said to have damaged the head by scouring away the bottom at north-west corner. The head has since, however, been repaired, and is now standing all right. It is used generally for the district, and for shipping bog ore.

There is said to be no fishing here, but boats sometimes come from Tory Island and land fish and purchase stores.

PORT NABLAHY—SHEEP HAVEN.

Visited on 6th August, with Mr. Harte.

This pier which was constructed in 1849, is used by fishing boats, there being two or three fishing boats and fifteen curraghs; two men go to each curragh. Cod and ling are caught off Tory Island; herrings have left the coast for ten years, but appear to be coming back again. There is a salmon and lobster fishery

There is a very nice harbour inside of this pier with clean sandy beach, and clean ground alongside of pier. There is a run on beach with north-east to north-west wind. Boats can take harbour even in bad weather, but vessels cannot take it almost at any time on account of what is called the middle reef.

The pier presents a substantial appearance. Some stones, it is stated, came out of the back of it at one time, but were replaced and secured by wedges. The pitching or roadway of pier is rather rough for carting, and should for a certain width, be grouted up with cement concrete.

The entrance to the harbour is greatly hampered by certain rocks which stretch across the bay, and the entrance might be greatly improved by blasting a portion off west end of middle reef, and having a beacon put on east end of west reef. Were this done vessels and boats could take the harbour in almost any weather. The port is susceptible of great improvement.

The information as to boats was got from the Pier Constable.

DOWNIES PIER.

Visited on 7th August, with Mr. Harte, at about four hours flood.

This appears to be a substantially built pier of concrete in Downies bay, on the northern shore of Sheep Haven.

There is a crack all along back of cope ⅜ of an inch wide, apparently caused by a subsidence of the hearting. There are also several fine cracks in the concrete work at various places, but nothing to cause alarm. There is no road to the pier at present; the harbour inside of pier said to be sanding up. A heavy run comes in with north-west wind. Sea comes over roadway of pier. About three boats of 24 feet keel, and nine curraghs fish from pier. Get cod, ling, and herrings. Lord Leitrim's steamer calls sometimes. No stranger boats come here. A Scotch boat fished here in spring for cod, ling, &c.—deep sea fishing—she did not succeed well and left.

The men whom I saw think that sand may clear away again in winter.

Impossible to hold heavy vessels at pier in winter.

The pier is of great use to the fishermen, but they would like to have a slip formed, near the landward end of it, to enable them to haul up their boats, and no doubt this would be of great value to them, and, indeed, some means of hauling up boats is an essential where there is no harbour in which boats can remain in safety in stormy weather. I recommend the formation of this slip, and a communication by road should certainly be formed.

RATHMULLEN.

Visited on 7th August, with Mr. Harte.

The pier appears to be standing well, and is of great use. The outer end has been protected with strong timbering.

Several fishing boats use this pier, and the ferry steamer calls at it in connexion with the Loch Swilly Railway.

BUNCRANA.

Visited on 8th August, with Mr. Harte.

This pier is masonry work, and was designed by Mr. Forsyth in 1868, a date prior to the general adoption of concrete for harbour works. It has been built in a rather rough and careless manner, and the end of it has been at different times damaged. It was, however, at the time of my visit, in a fair state of repair, though in a state liable to further damage by heavy storms. There are no line fishing boats here, but two trawlers, two schooners, and one smack were lying at the pier, and three trawlers fishing in the bay. The vessels were loading peat for Campbeltown.

North west wind is worst for sea.

CULDAFF.

Visited on 10th August, with Mr. Harte.

This pier is in progress. There were present at meeting—Mr. Young, the proprietor—the Superintendent of the pier, and a number of fishermen.

A strong desire had been expressed to have this pier extended 60 feet, and I was informed that the Board of Works had agreed to extend it 35 feet, which it was presumed would be as far as the funds at disposal would admit. The pier is being executed in a substantial manner, and the fishermen expect it to be of great use to them.

Three boats belong to the place at present.

The space inside of pier is very confined, there being rocks very near to it.

One fisherman was there from Glengad and expressed a desire to have a pier built there, where a number of other boatmen lived. Glengad is about 2½ miles to westward.

The excavations in interior of Culdaff harbour ought to be carried in level, instead of being sloped up as on sections, as there is but a small rise of tide, and boats at neaps cannot get to upper end of pier for want of water. A portion of the parapet, coloured red on plan, might, I think, with advantage, be strengthened on the inside.

MOVILLE.

Visited on 10th August, with Mr. Harte.

The Memorialist desires a pier constructed at Moville, extending from what is called Whiskey Rock, 500 feet out into Lough Foyle.

The present pier is of open timber work, and is kept in repair by the Londonderry Port and Harbour Commissioners. A small harbour also exists to the north of timber pier used by small boats. A stone pier exists about 1,350 yards to the westward of timber pier, which is used by vessels. This pier is also in charge of the Londonderry Port and Harbour Commissioners.

The applicant for the present pier proposes that it should be made of stone. This will cause some interference with the currents, and will require consideration and consultation with the Port and Harbour Commissioners of Londonderry, as it is within their jurisdiction as harbour authorities.

Edinburgh, October 2, 1885.

THOMAS STEVENSON.

DUBLIN: Printed by ALEX. THOM & Co. (Limited), 87, 88, & 89, Abbey-street,
The Queen's Printing Office
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DONEGAL HARBOURS

MAP OF THE SITES

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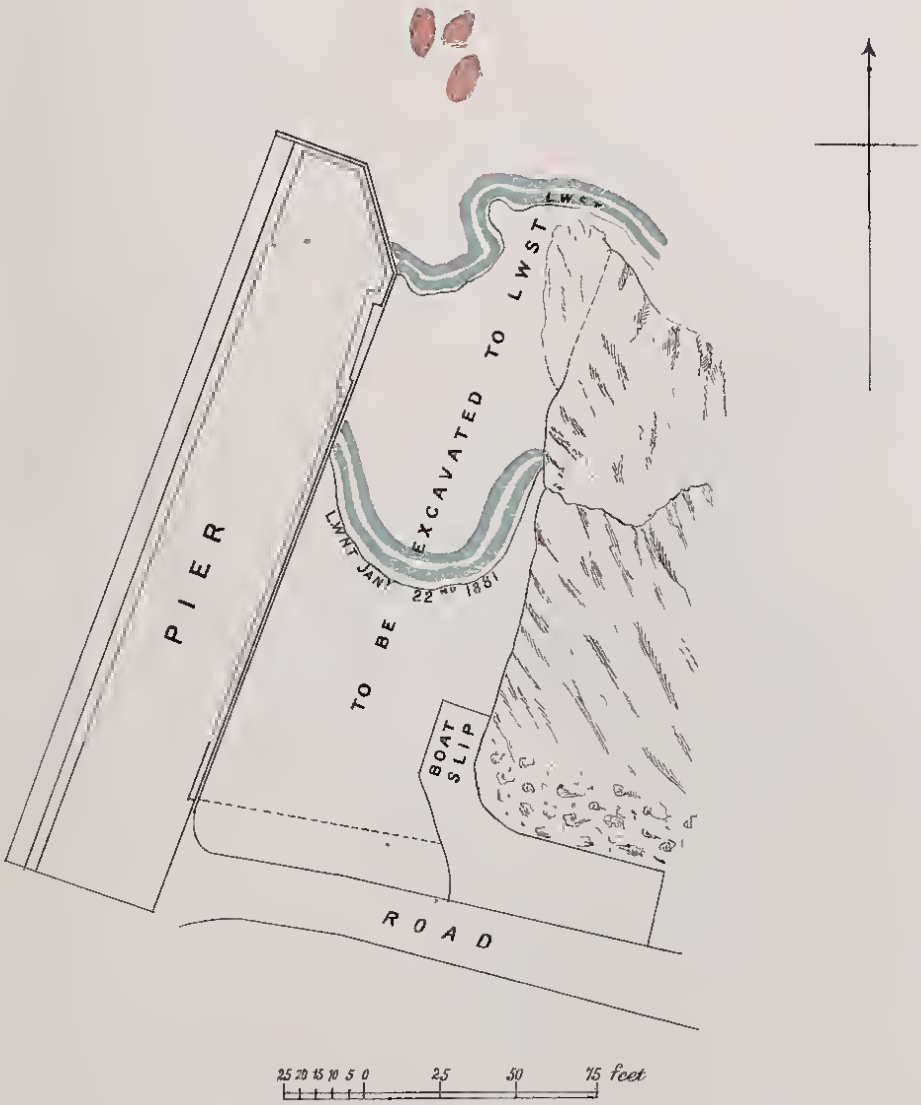
DONEGAL HARBOURS

BUNATRUHAN Boat Harbour



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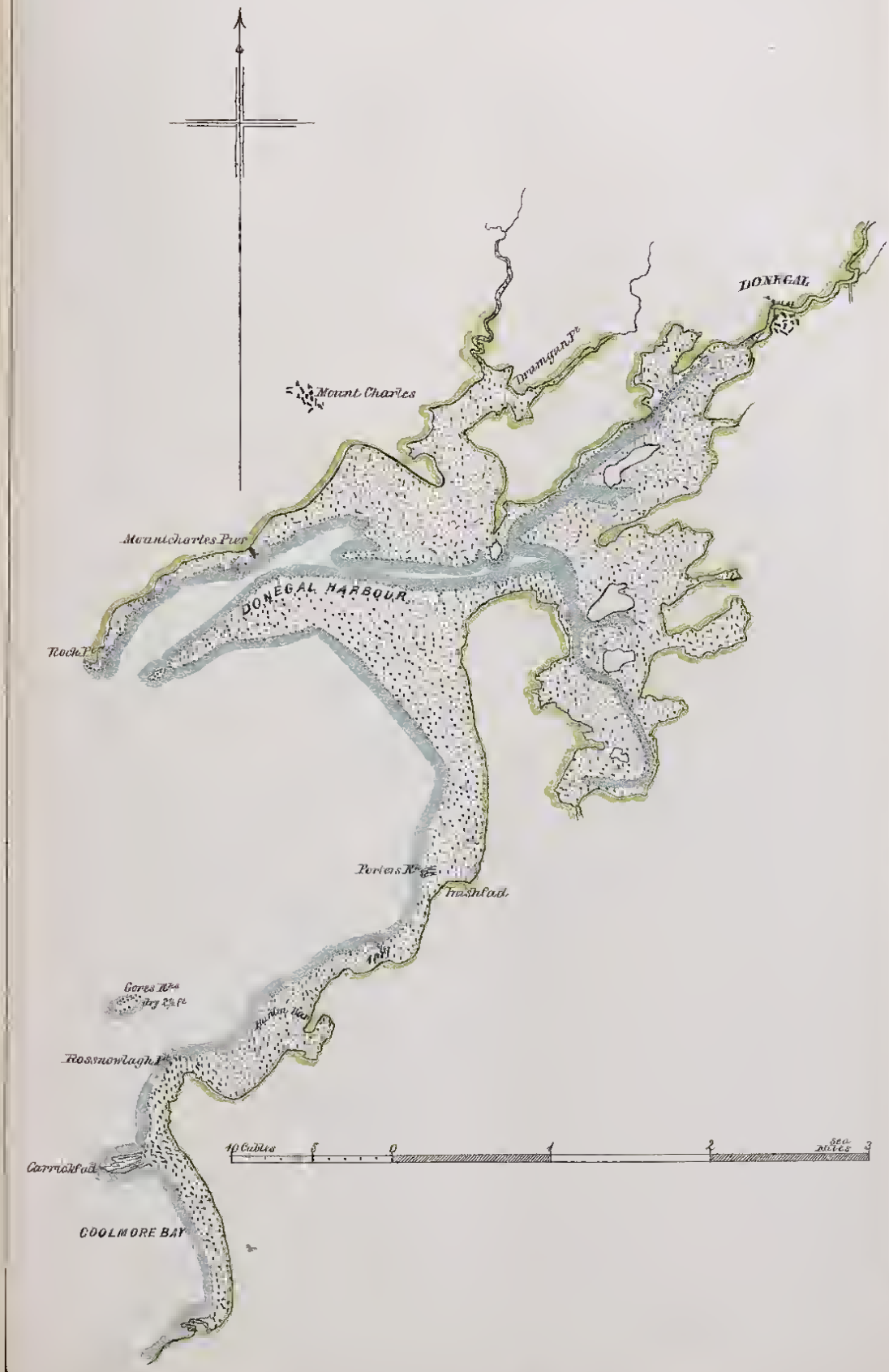
DONEGAL HARBOURS

KELLY'S ROCK



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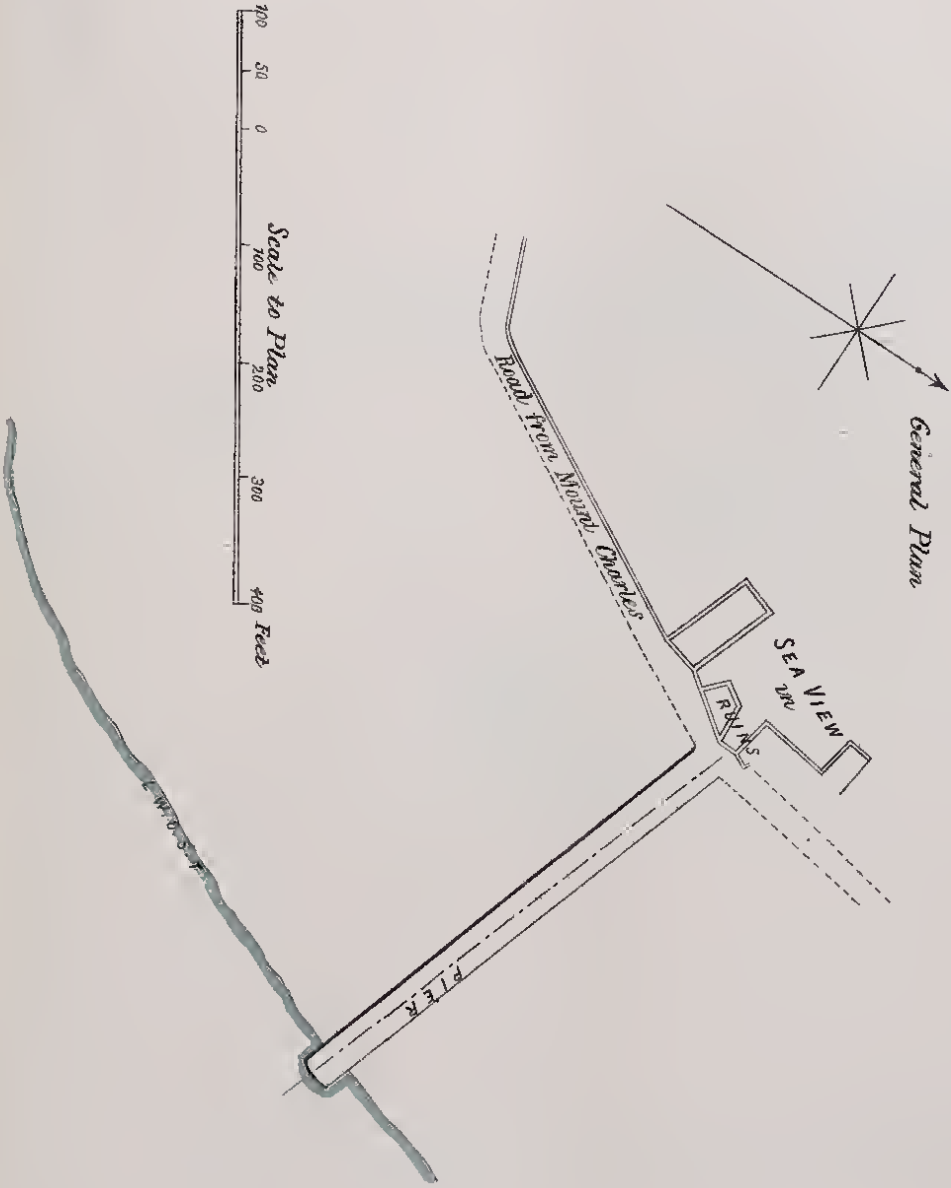
DONEGAL HARBOURS

MOUNTCHARLES PIER



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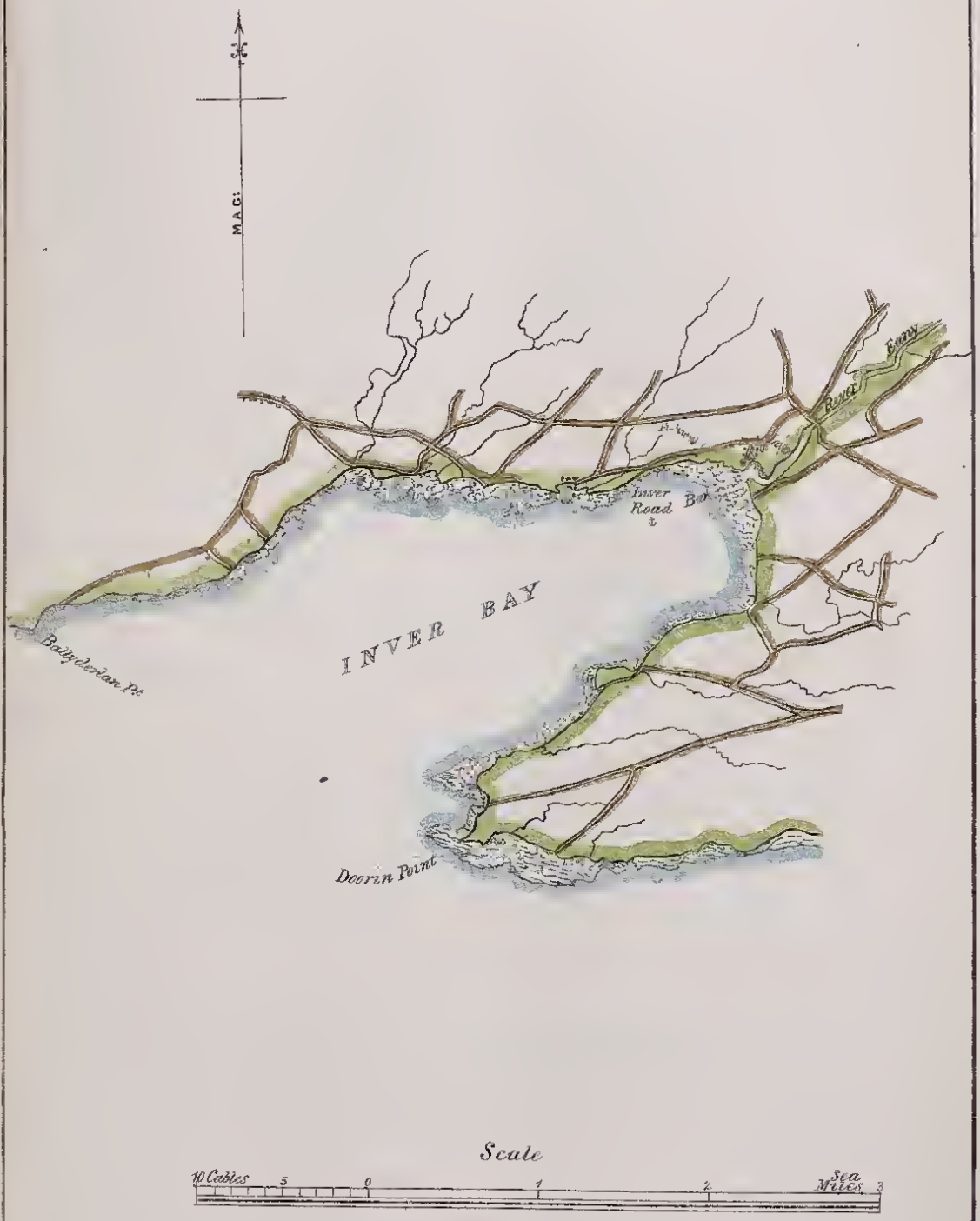
DONEGAL HARBOURS

INVER HARBOUR



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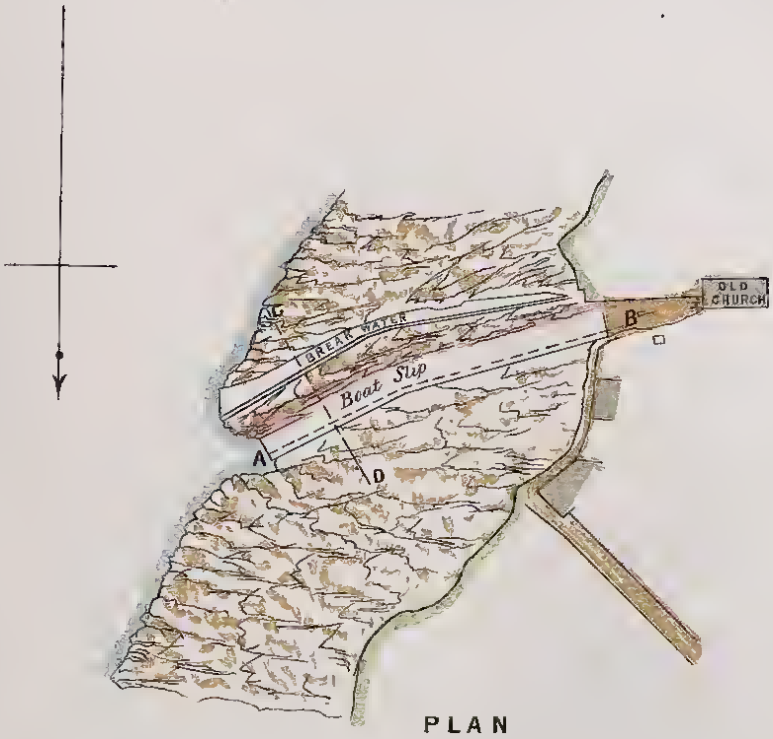
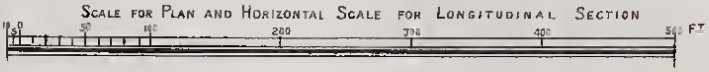
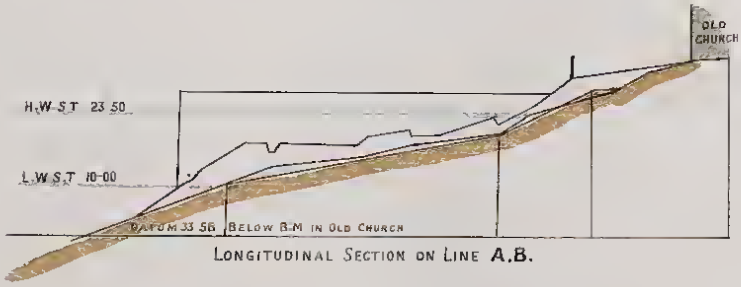
DONEGAL HARBOURS

BALLYSAGGART Slip & Boat Harbour

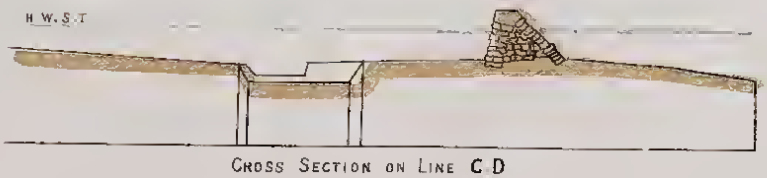


Scale for Plan and Horizontal Scale for Longitudinal Section



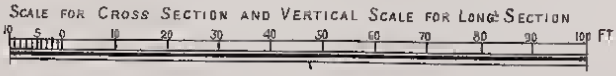


Longitudinal Section on Line A.B.



Cross Section on Line C.D

Scale for Cross Section and Vertical Scale for Long^L Section



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DONEGAL HARBOURS

BRUCKLESS HARBOUR

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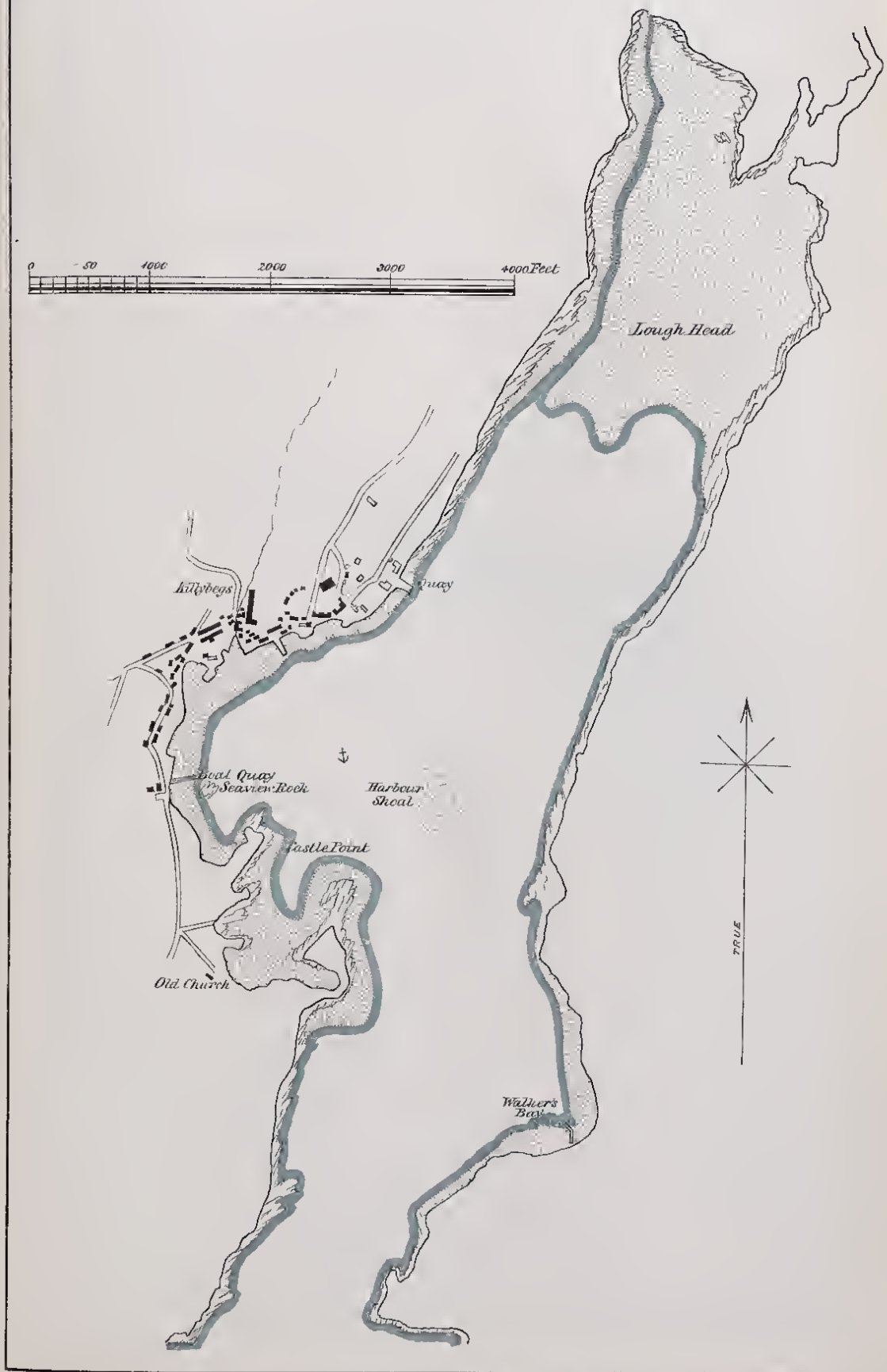
DONEGAL HARBOURS

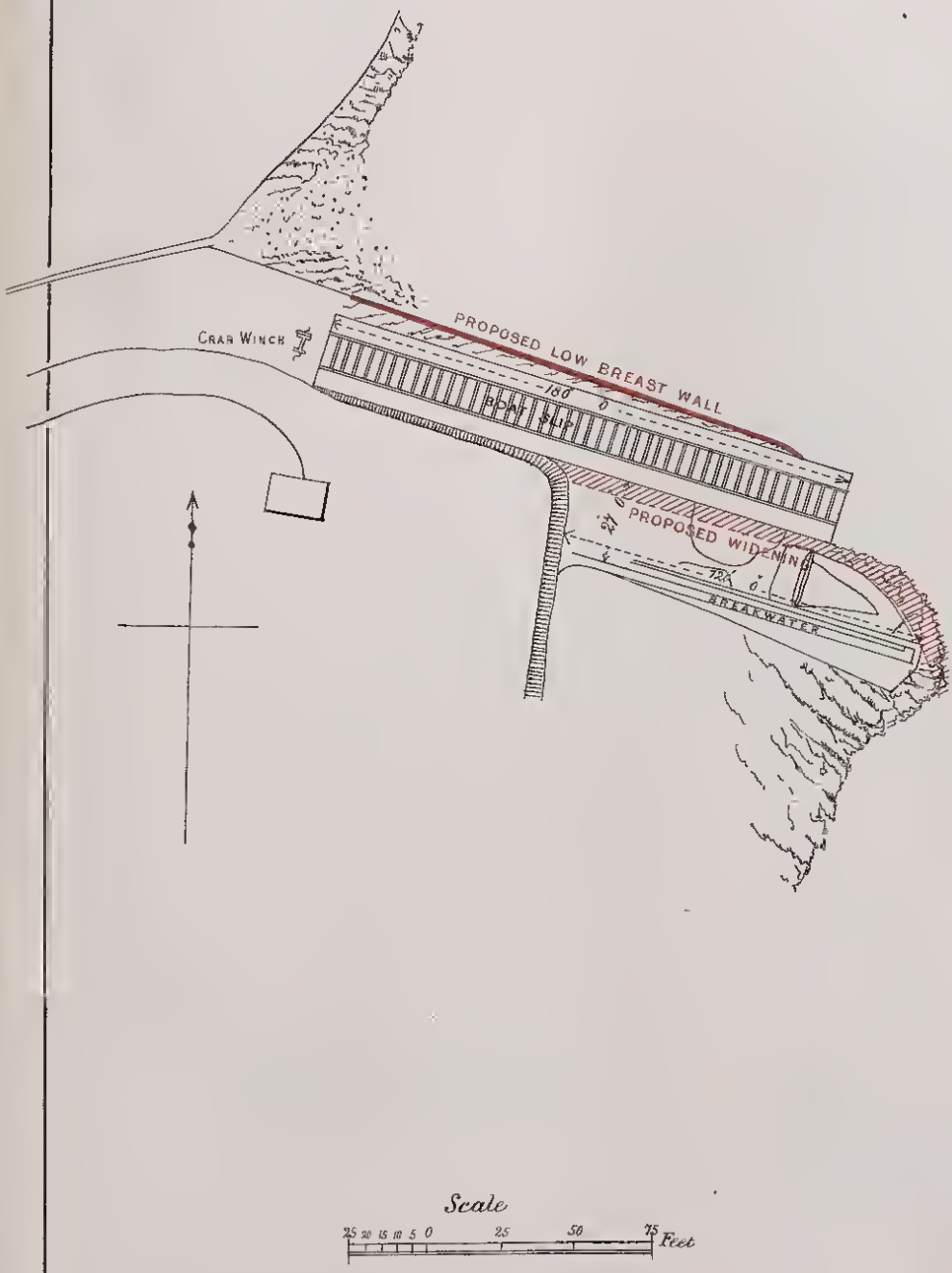
KILLYBEGS HARBOUR.



Fowler & Co. Dublin

DONEGAL HARBOURS

POOLHURRIN BOAT SLIP



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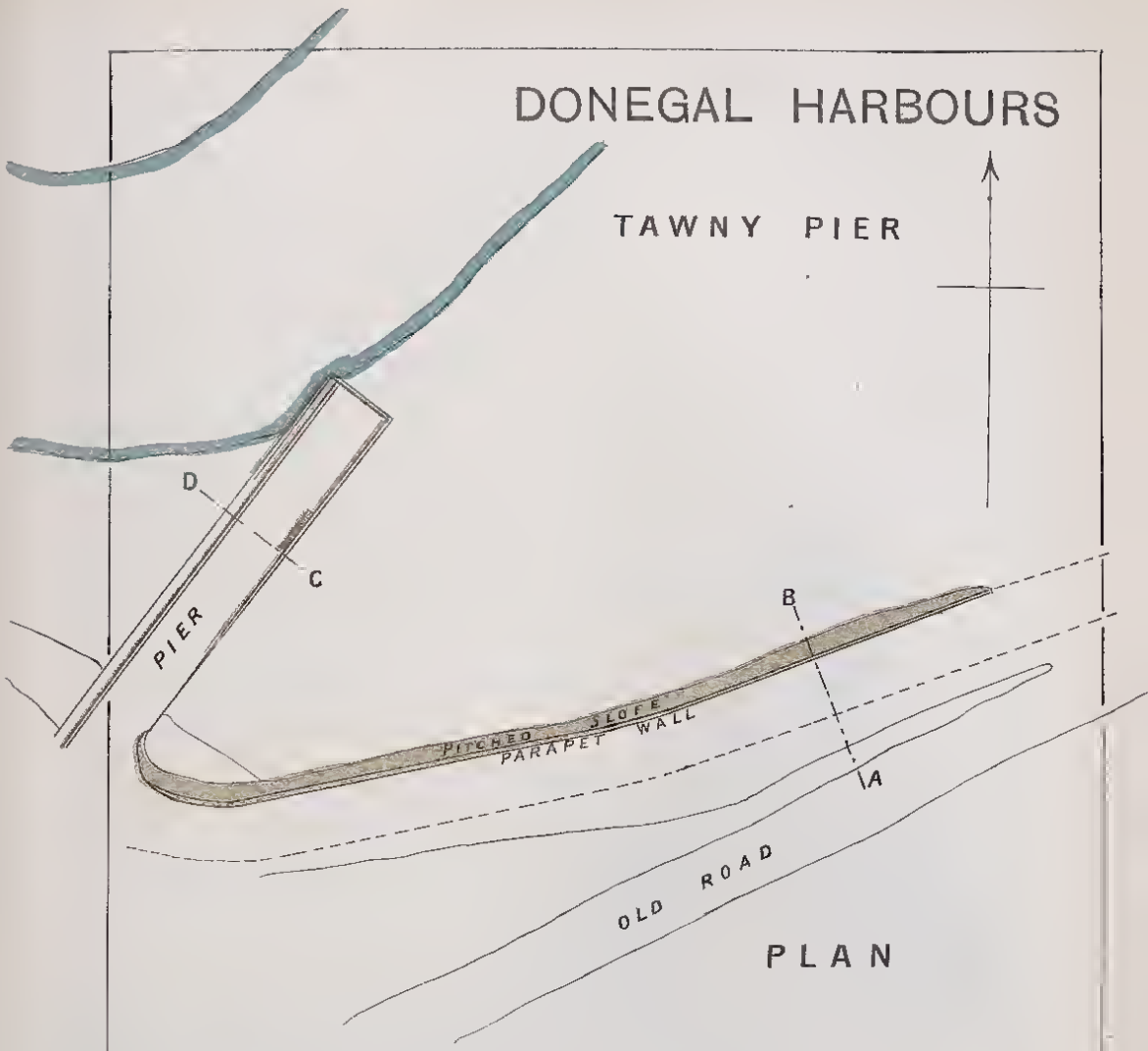
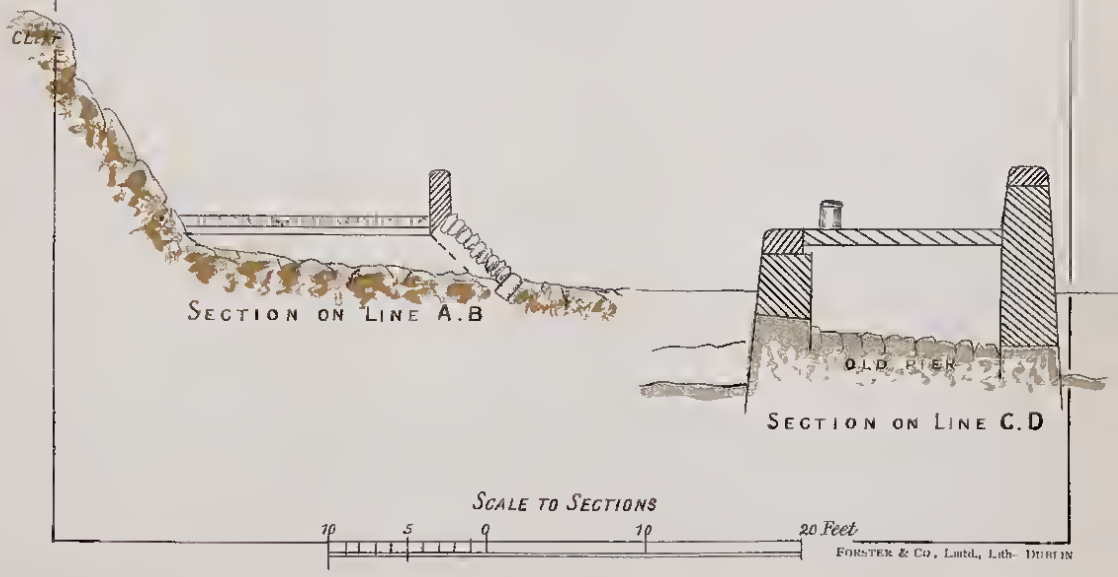
DONEGAL HARBOURS

TAWNY PIER





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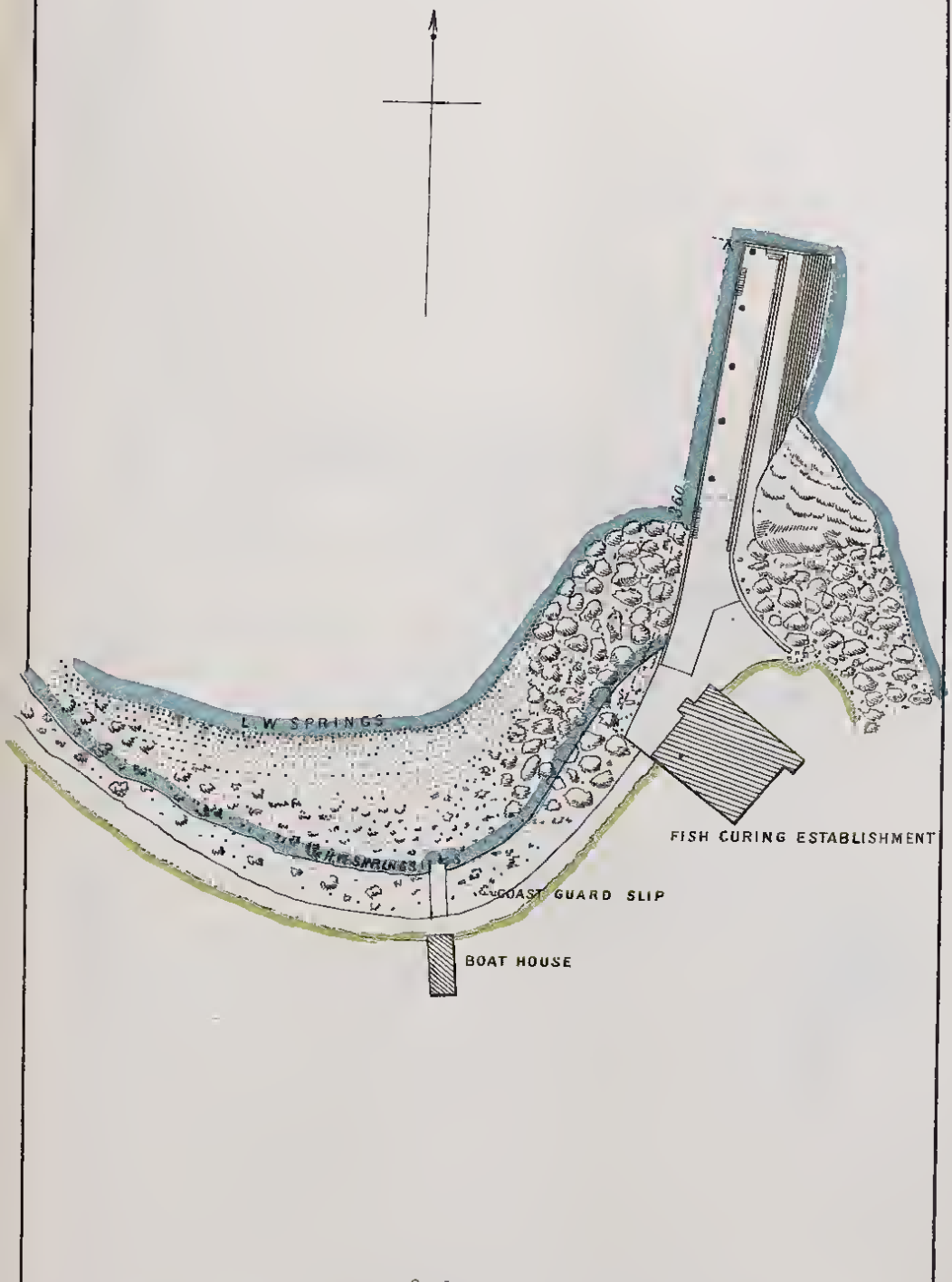
TEELIN PIER



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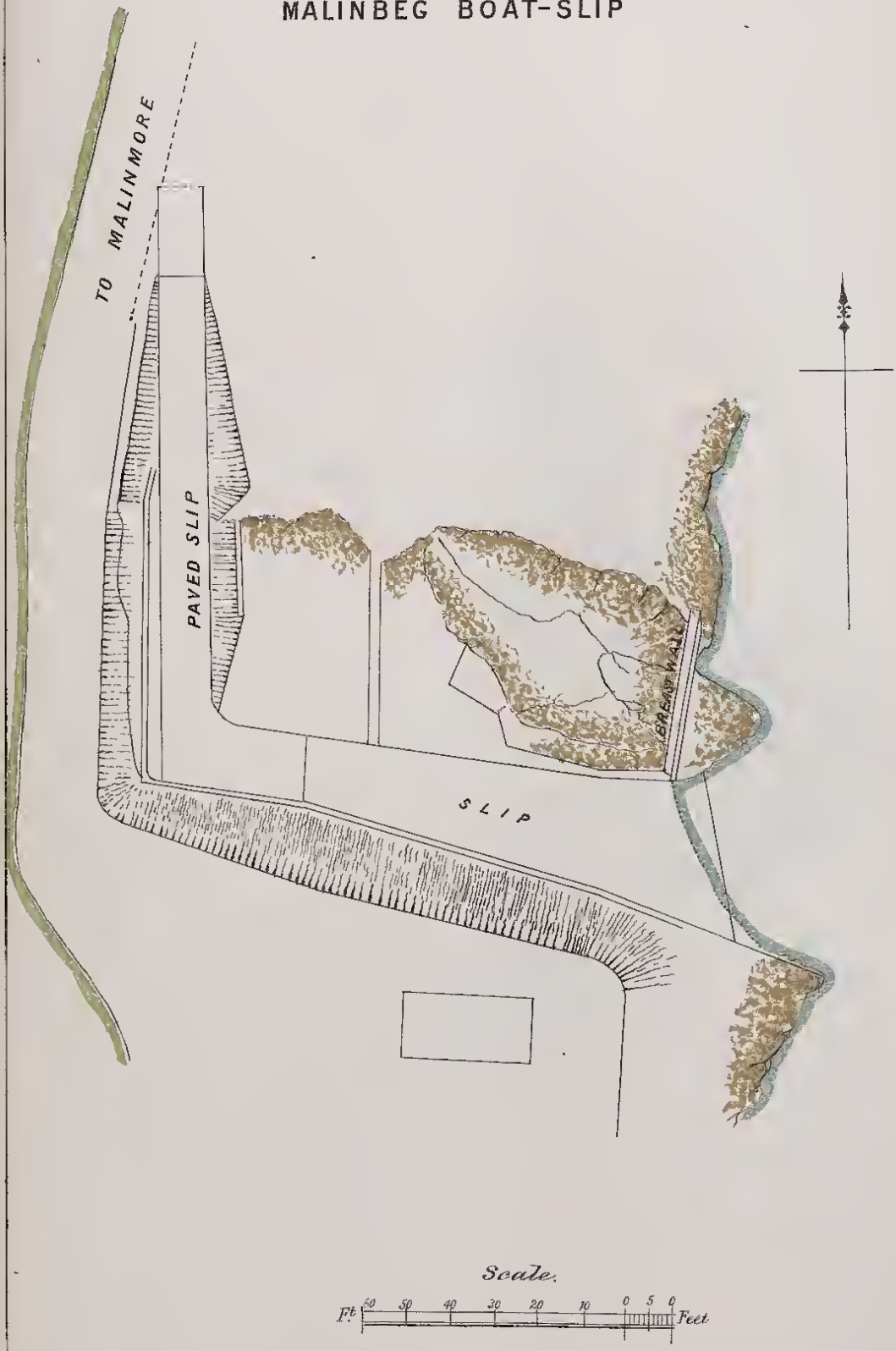
DONEGAL HARBOURS

MALINBEG BOAT-SLIP



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DONEGAL HARBOURS

PORTNOO

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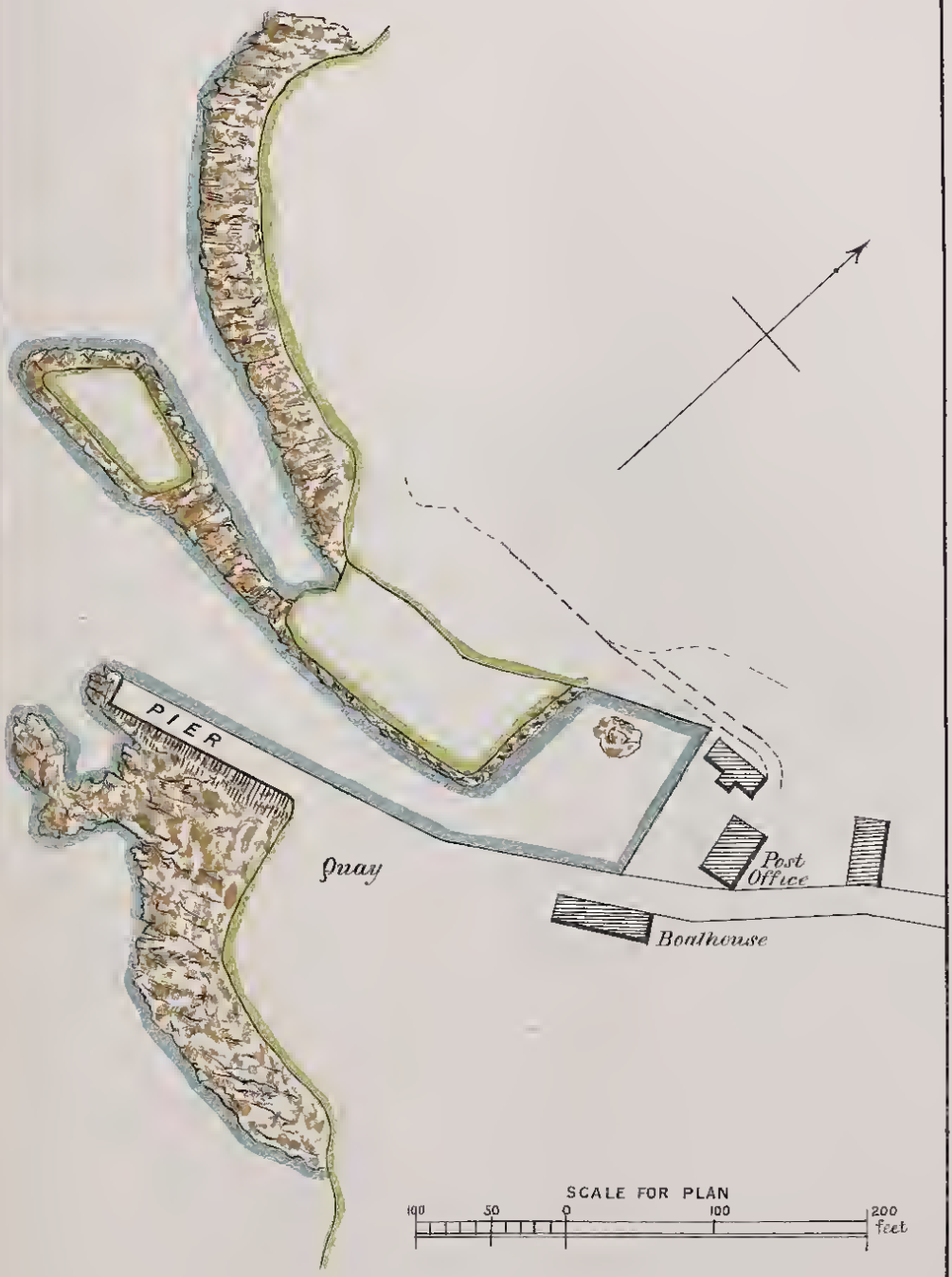
DONEGAL HARBOURS

BURTON PORT PIER



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DONEGAL HARBOURS

RANNAGH PIER

ARRANMORE

Scale

10 0 10 20 30 40 50 60 70 80 90 100 150 200 *Feet*

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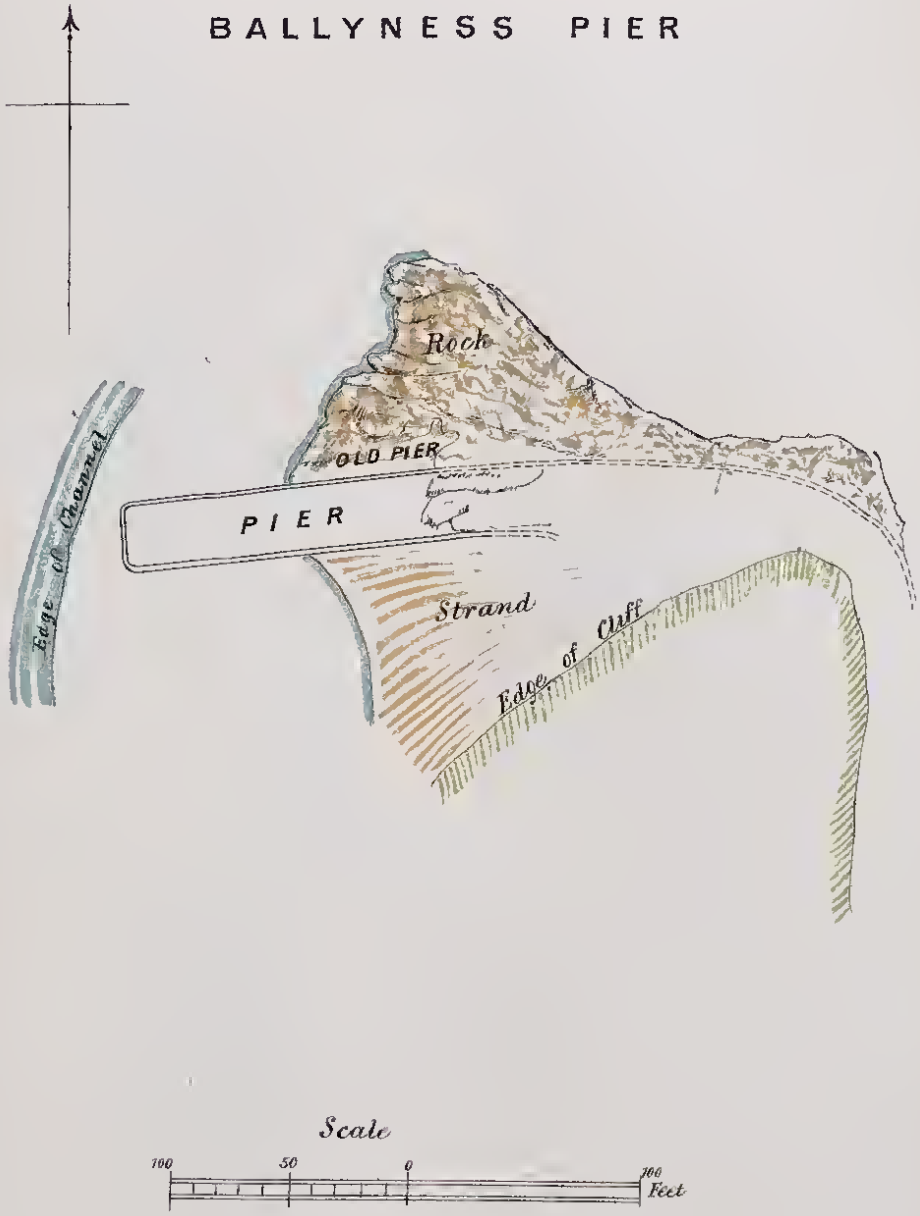
DONEGAL HARBOURS

BALLYNESS PIER



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PORTNABLAHY

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DOWNIES BAY PIER

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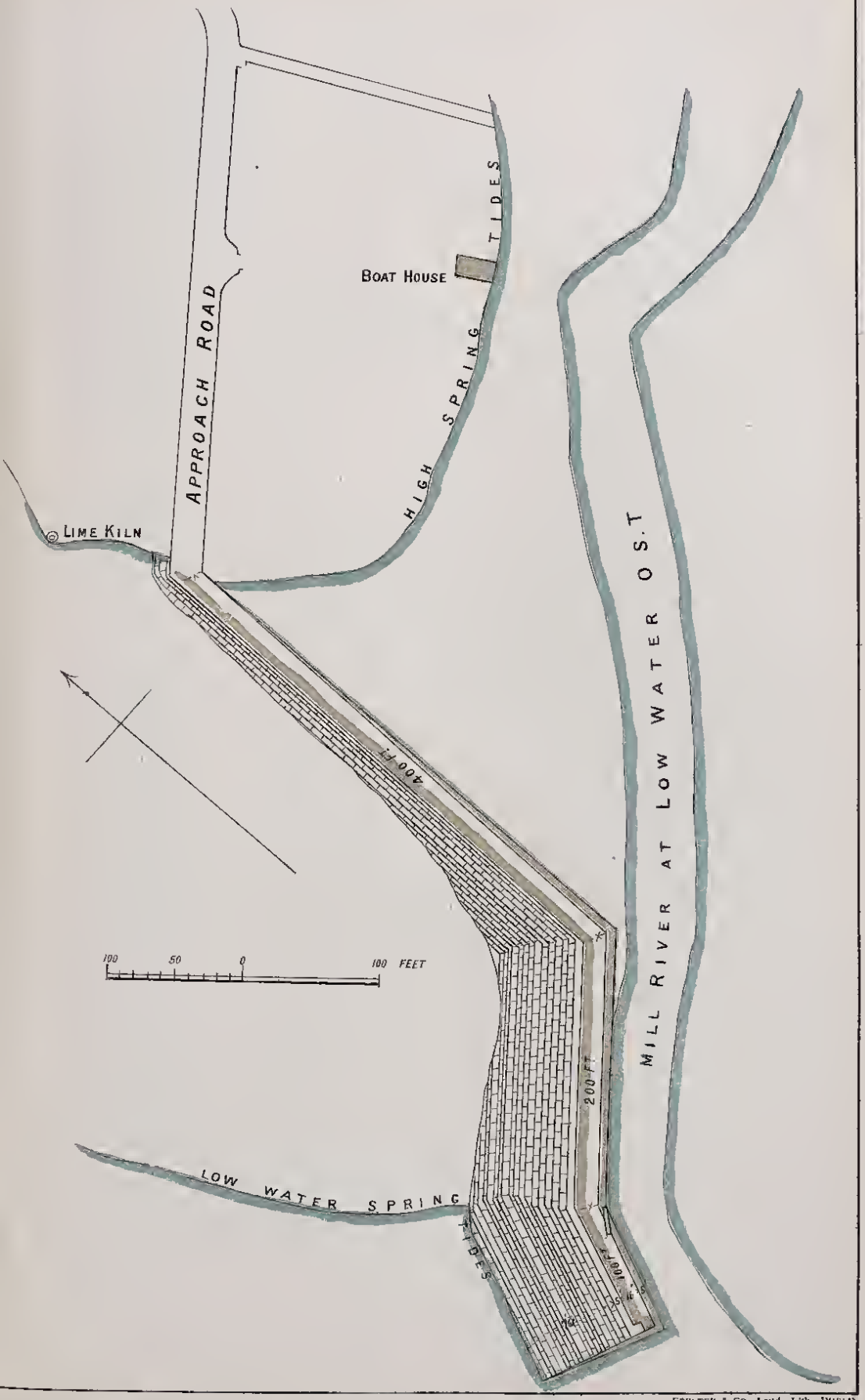
DONEGAL HARBOURS

BUNCRANA PIER



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